

## **PROCEEDINGS: CONTEXT SENSITIVE DESIGN SYMPOSIUM**

### **CSD, project development and community expectations**

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Transportation investment decisions are powerful and far reaching. Traffic planning exists because of this. The impact of widening a road can be significant because given the increased capacity, people often move further out to the suburbs, and businesses follow. This leads to increased demand and thus, the need to build more roads. We often see that actual volumes quickly exceed the 20-year forecast and the cycle of continuous road widenings may continue. Therefore, we must be more thoughtful about transportation investments, the design of transportation facilities, and the associated development response to a transportation investment.

There are three key points to consider while integrating CSD into everyday projects - transportation and land use, alternatives, and community engagement.

The first key to integrating CSD into everyday tasks is to appreciate and understand the land use and transportation connection. When we separate uses and do not connect them in any shape / form, all traffic ends up on one road. Trip assignments in traditional grid pattern and a conventional cul-de-sac subdivision vary greatly. An alternative to this is a closer mix of uses and connections between these uses.

The orientation of the building and the roadways also create certain usage patterns. If buildings are set back from the road then it creates pedestrian hostile public streets, a lack of public spaces like plazas, and non existent pedestrian connectivity between buildings on adjacent lots. In contrast, if the road has amenities for pedestrians, if the buildings are oriented to the street, then the community welcomes and embraces the design.

The quality of travel resulting from the conventional suburban development pattern is usually poor. It starts at your residence and then begins to deteriorate. As you enter the main collector road from your neighborhood, the road becomes wider and is generally walled. The collector then leads to the major arterial road which is decreasingly less appealing for travel. Finally, the trip ends in a shopping area void of character, with long walks to the shopping area through a massive sea of asphalt. Alternatively, the quality of travel is fundamentally different with the traditional neighborhood development pattern, even though the same origins and destinations exist within the conventional and traditional neighborhood development pattern. Here the drive is along a pleasant street that is narrower, lined with trees. It is not walled and does not have the character of the huge arterial lined with strip centers. With a network of roads to choose from on the trip, all the traffic does not end up on one road, thereby allowing for a higher quality travel experience. The trip ends in a pleasant, walkable environment that is scaled for the pedestrian. On-street parking lines the streets providing ready access to small shops and services.

An example of how land use patterns can be considered in roadway planning is clear through a study done for a section of SR 415 in Volusia County.

It was recognized that the roadway passes through a number of different contexts and another way to view the community uses that are seen in a land use plan is to think about the different views that you see while driving on the roadway. To help gain a sense of what each of these viewpoints look like within the context of the

corridor, we prepared some very simple sketches in the form of land use scenarios for an urban, suburban, rural and conservation context to help facilitate additional discussion about the issues that are created by each of the various options. We evaluated questions like what gives the rural two-lane roadway its character and what are those items that need to be evaluated when improvements are made. If lanes are added to a roadway within a rural context, there are road, non-road and land development issues at play. Thus, the pertinent question is not only the type of future land use but also the form of future land use.

The second key to integrating CSD into everyday tasks of the transportation professional is to recognize the wide range of alternative transportation scenarios that exist to address congestion. The traditional approach to transportation planning is centered on moving cars more efficiently by adding pavement. However, some lateral thinking is needed to think about a broad range of options available beyond road widening. A big part of this approach is in establishing a road network that connects users. For the same lane miles, a dense network provides greater capacity than that with a sparse hierarchy.

Transportation options also need to balance LOS against community livability. A small reduction in speed results in a huge gain in livability. Design speeds play a big part in this since sight distance requirements expand exponentially as speed increases, so higher design speeds require significantly large roads and larger clear zones than lower design speeds, which significantly affects the character of the roadway.

Another example in this context is the Orlando Avenue Project Development and Environmental Impact Study. The main project objectives were improved walking, bicycling and vehicular circulation, improved safety of the corridor, retain and enhance business climate, balance mobility and accessibility and match capacity improvements to redevelopment opportunities. Based on community input, the DOT was able to develop solutions for access and local connections, parallel access and sidewalks.

Community engagement is the third key to integrating CSD into everyday tasks. It is necessary to get people to be part of the solution. Charettes, stakeholder interviews, visualization and stakeholder collaboration with the state DOT are few ways to accomplish this. Often project champions emerge from this process of stakeholder involvement.

What's next? What are the things that are helping agencies do CSD? A county specific CSD manual can outline corridor design guidelines based on corridor types and land use context. This manual is not meant to be prescriptive, but rather provide options. For example, for different types of roadways located within different contexts, the manual will identify the appropriate ranges of minimum design speed and maximum or "target" design speed, and it can suggest required and optional design elements, ranges of dimensions appropriate for this context, and other related information. When a study is started, community participation can be used to understand where the roadway falls within the matrix.

Applied appropriately CSD not only reduces work program costs but also increases community acceptance.